

FIG. 1

(PRIOR ART)

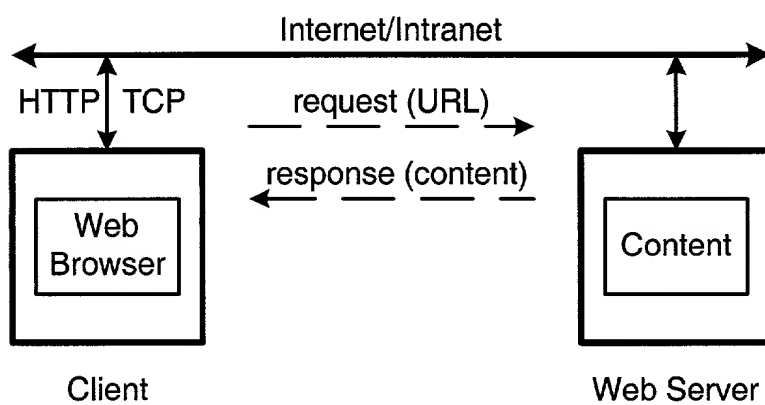
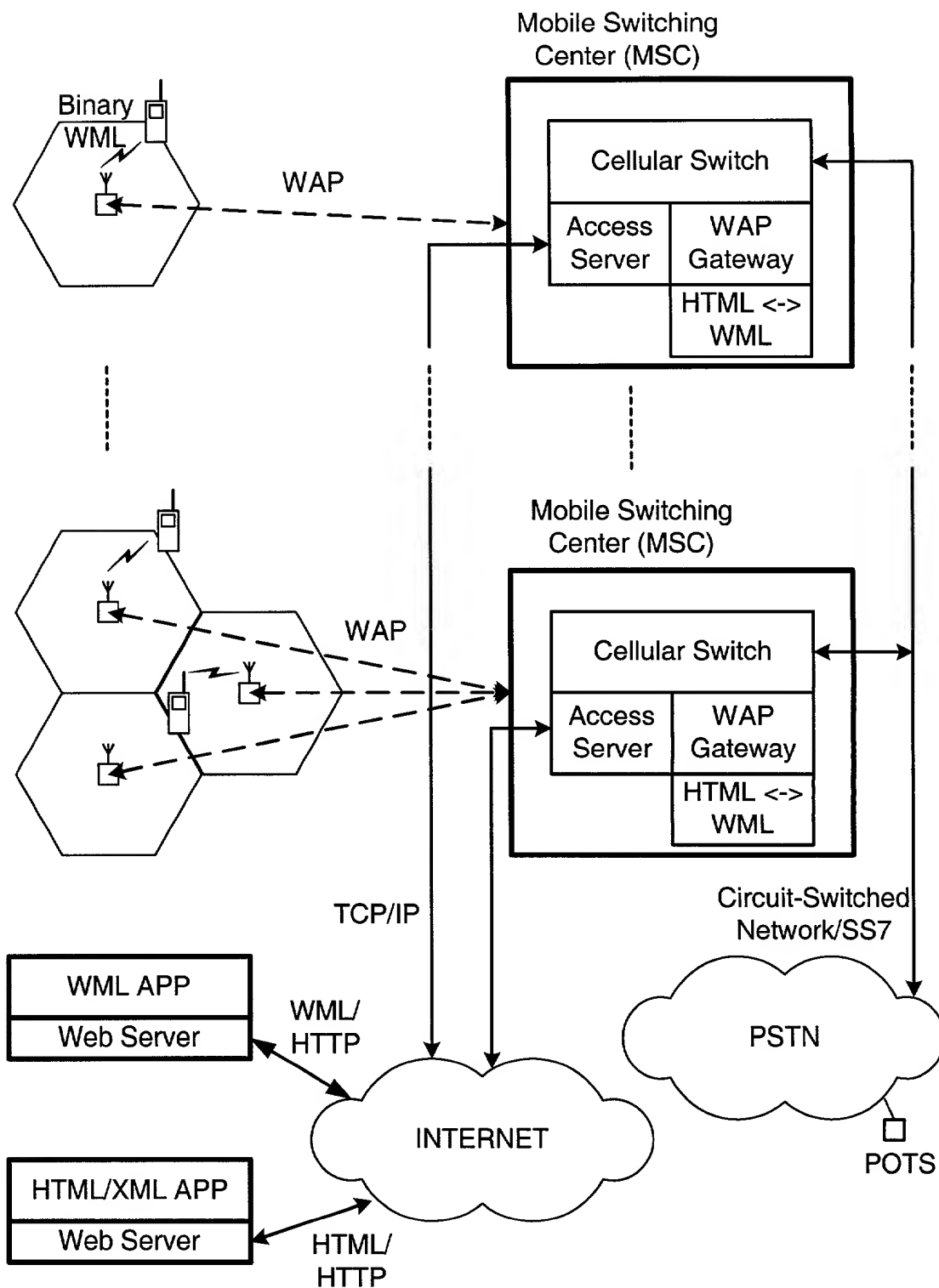


FIG. 2

(PRIOR ART)



(PRIOR ART)

FIG. 3

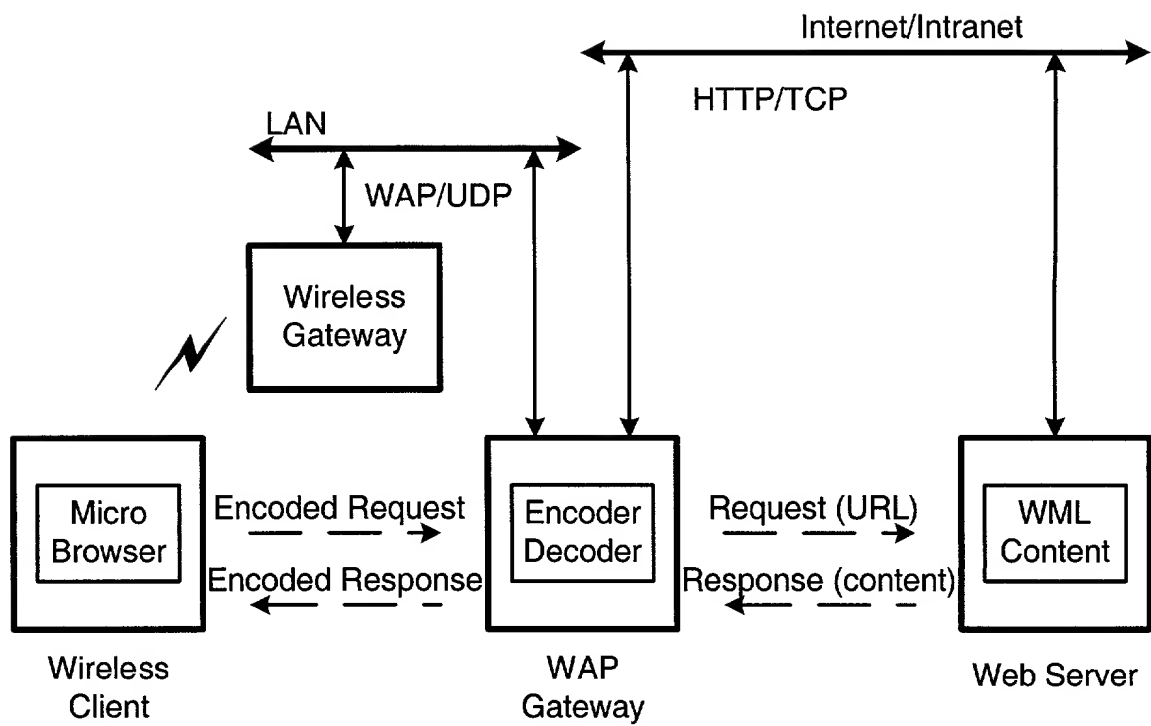


FIG. 4

(PRIOR ART)

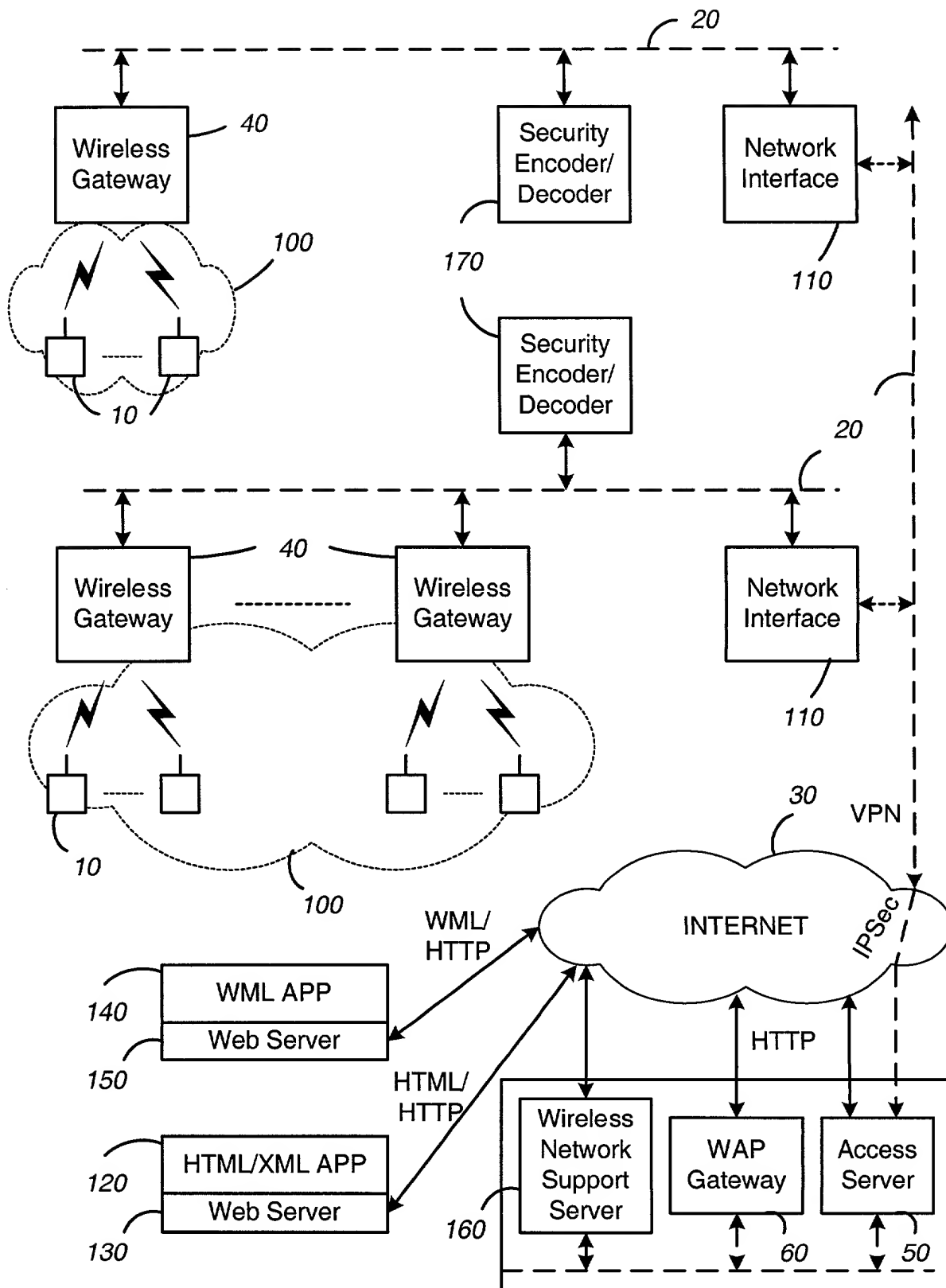


FIG. 5

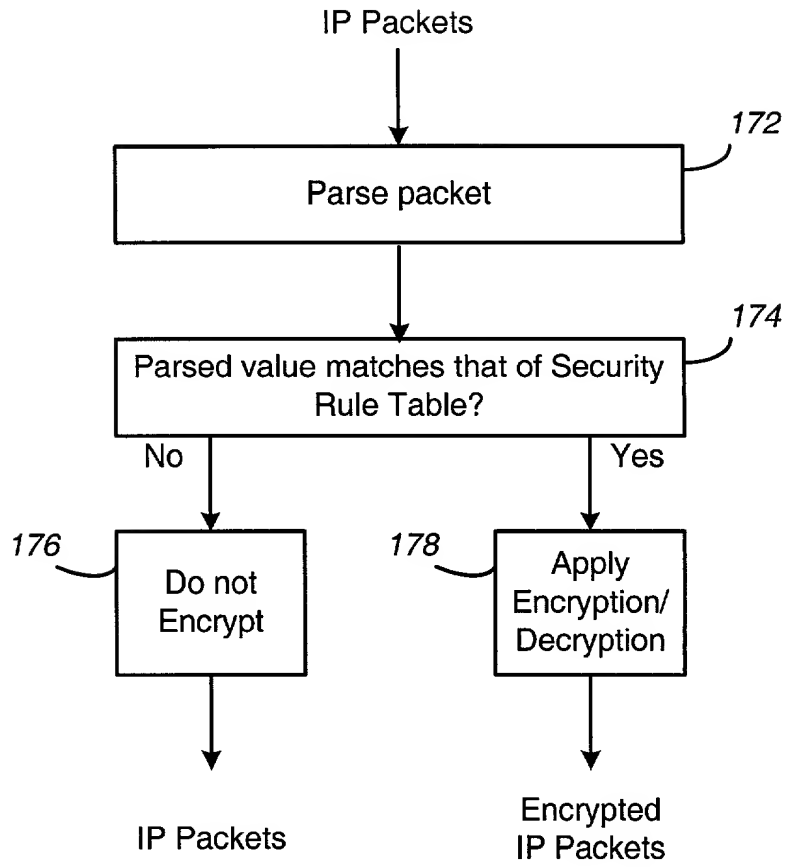


FIG. 6

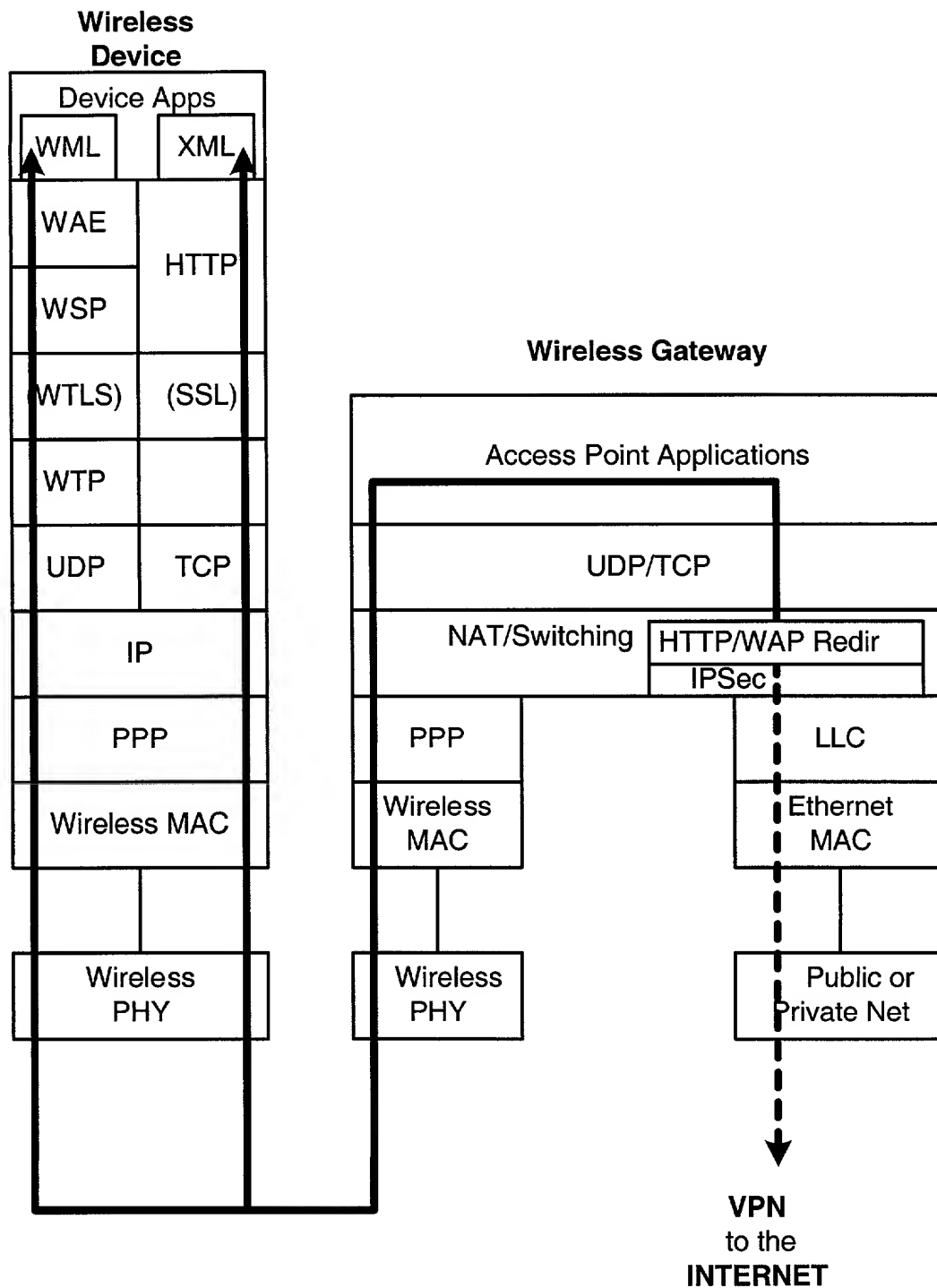


FIG. 7A

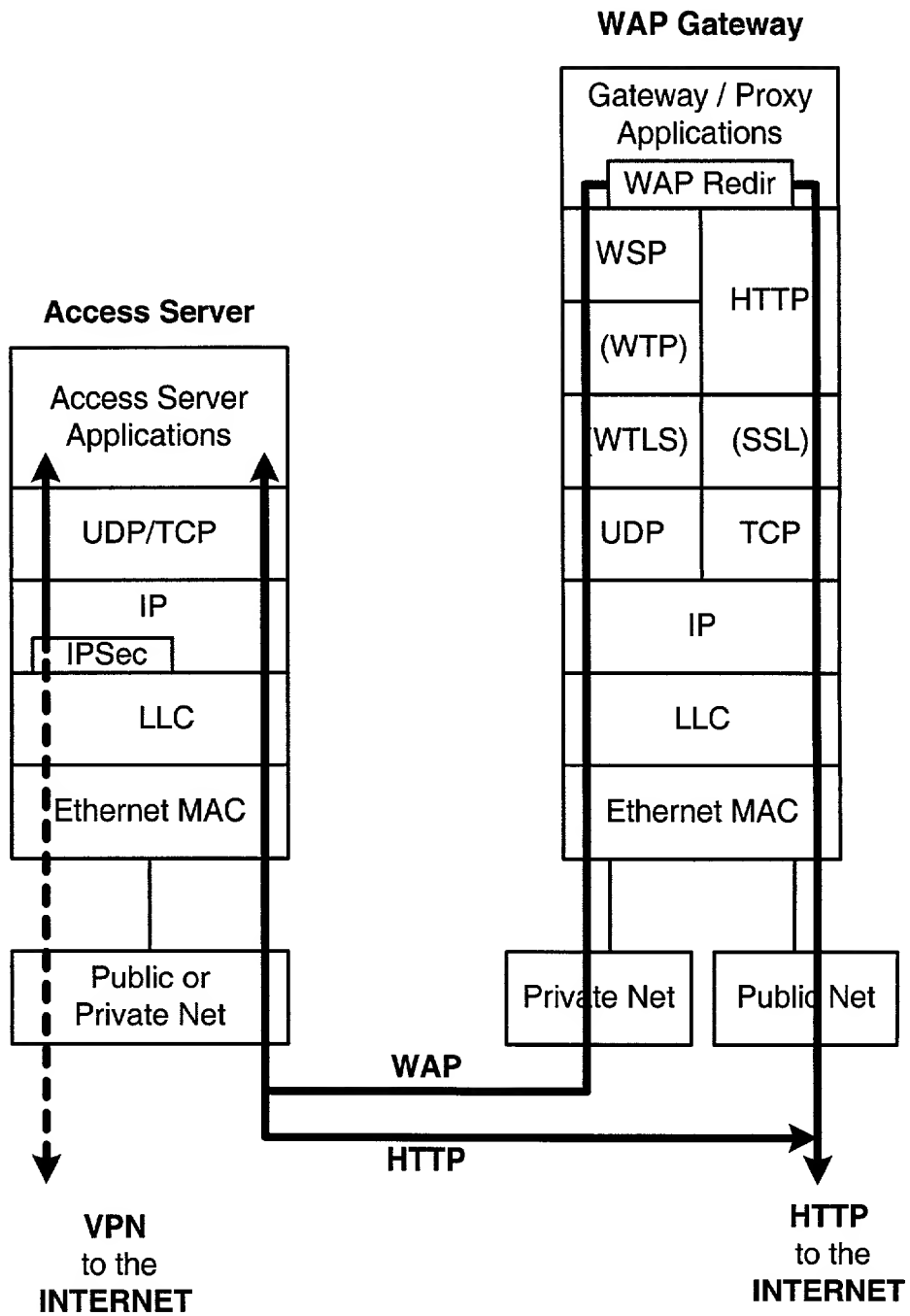


FIG. 7B

WIRELESS GATEWAY

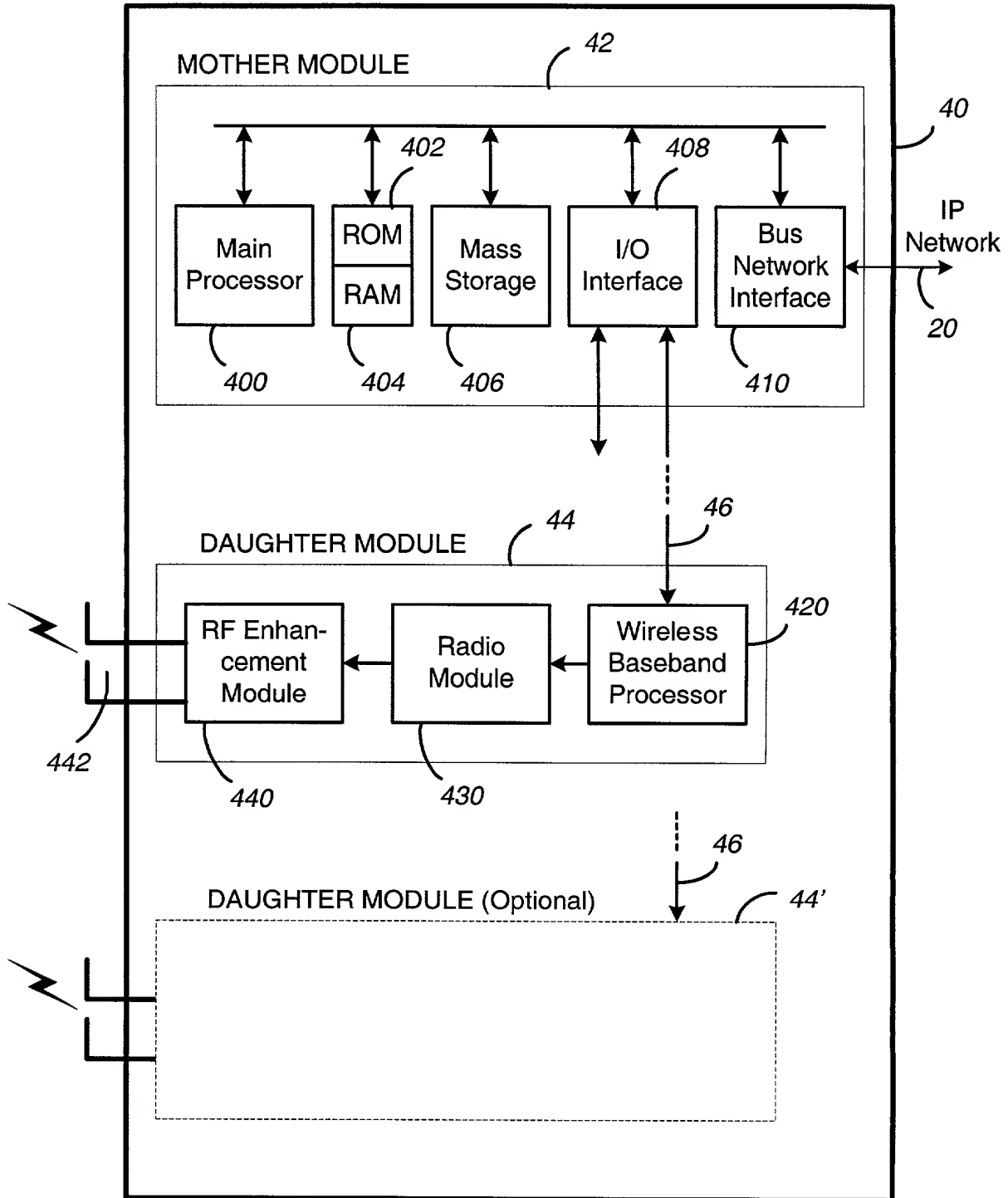


FIG. 8

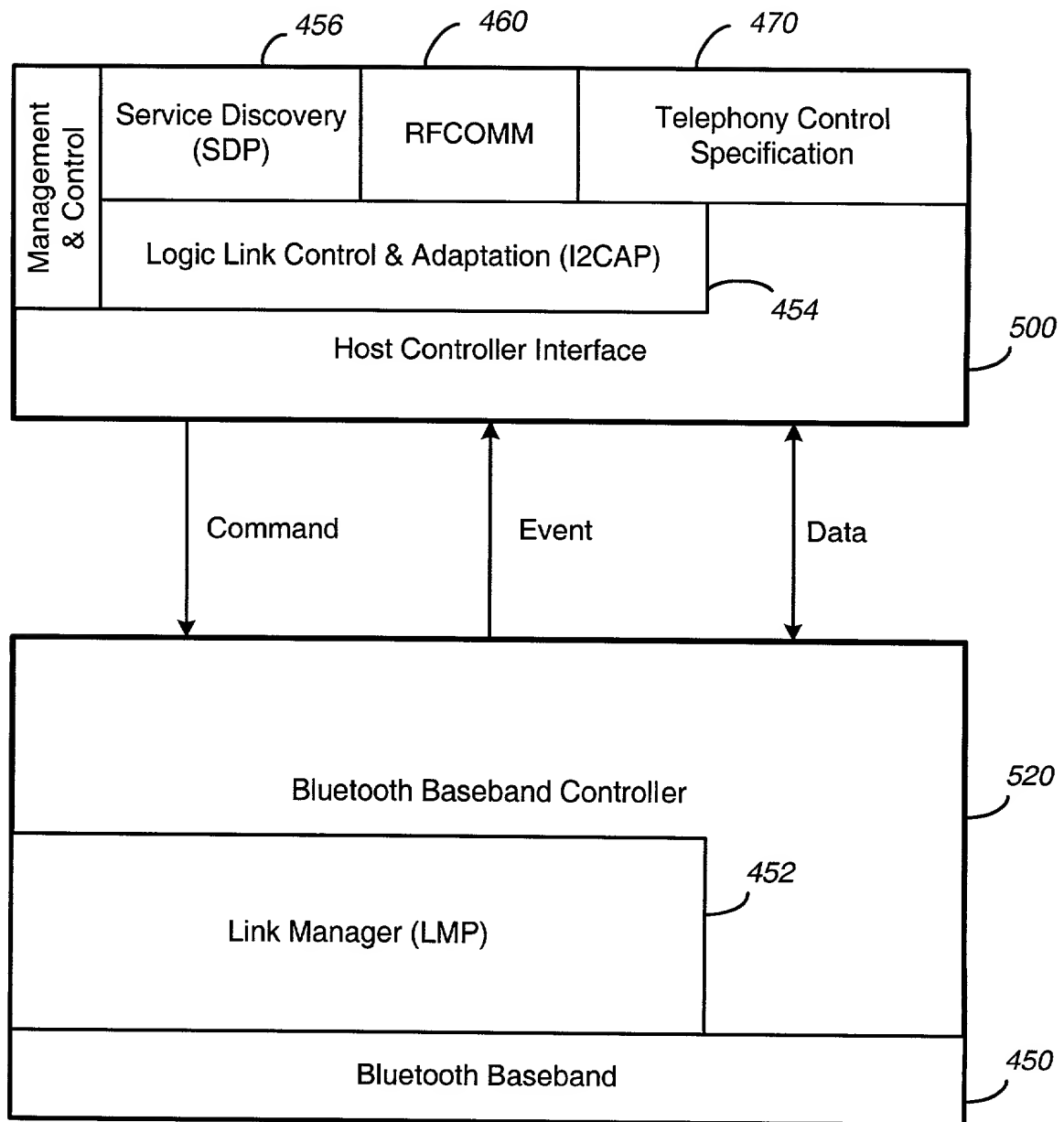


FIG. 9

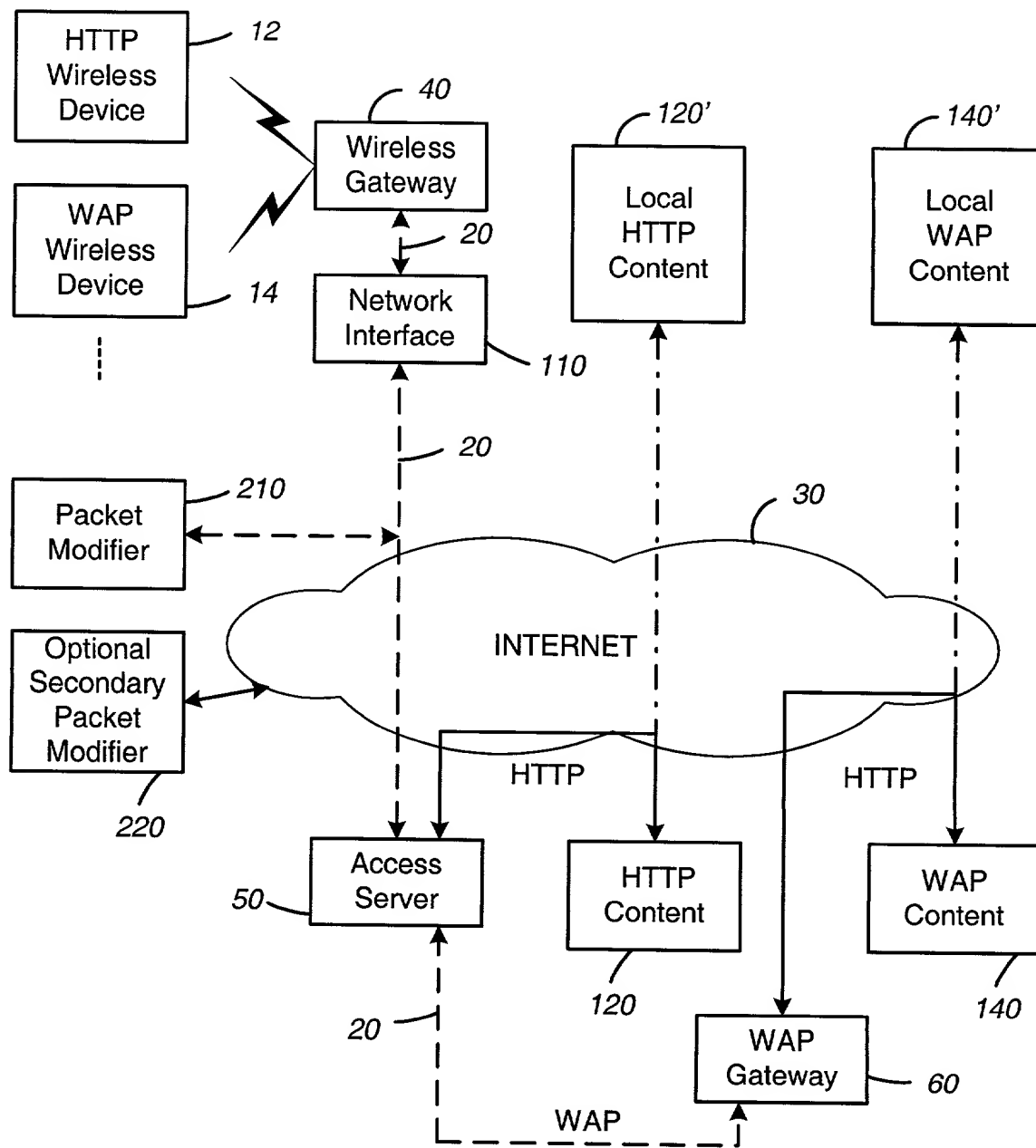


FIG. 10

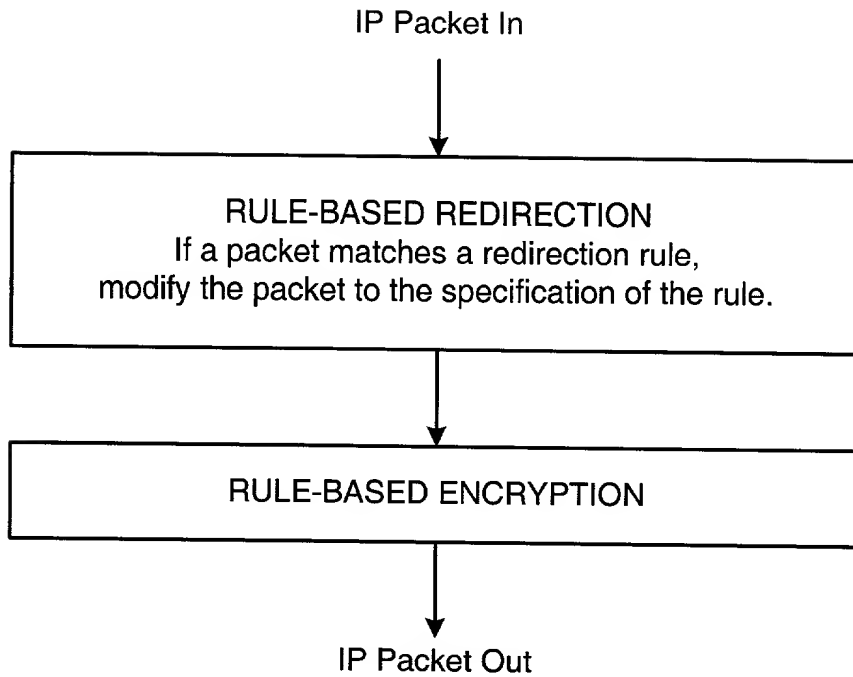


FIG. 11

0		31	
	IHL		Size of datagram (header + data)
16-bit identification			
	Transport Protocol	header checksum	
32-bit source IP address			
32-bit destination IP address			
Options			
TCP or UDP header			
data (may include URL path info)			

FIG. 12

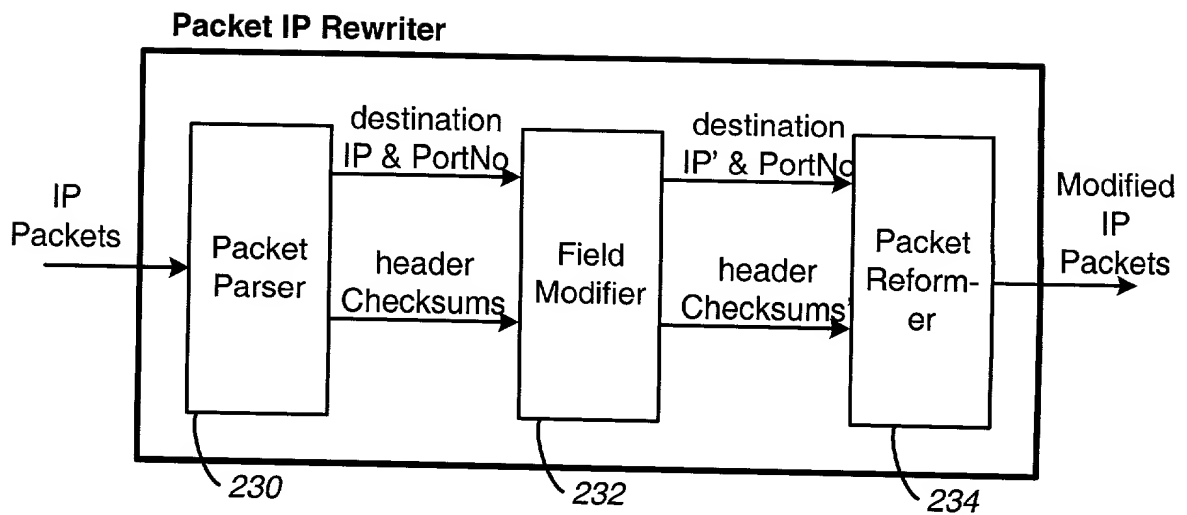


FIG. 13A

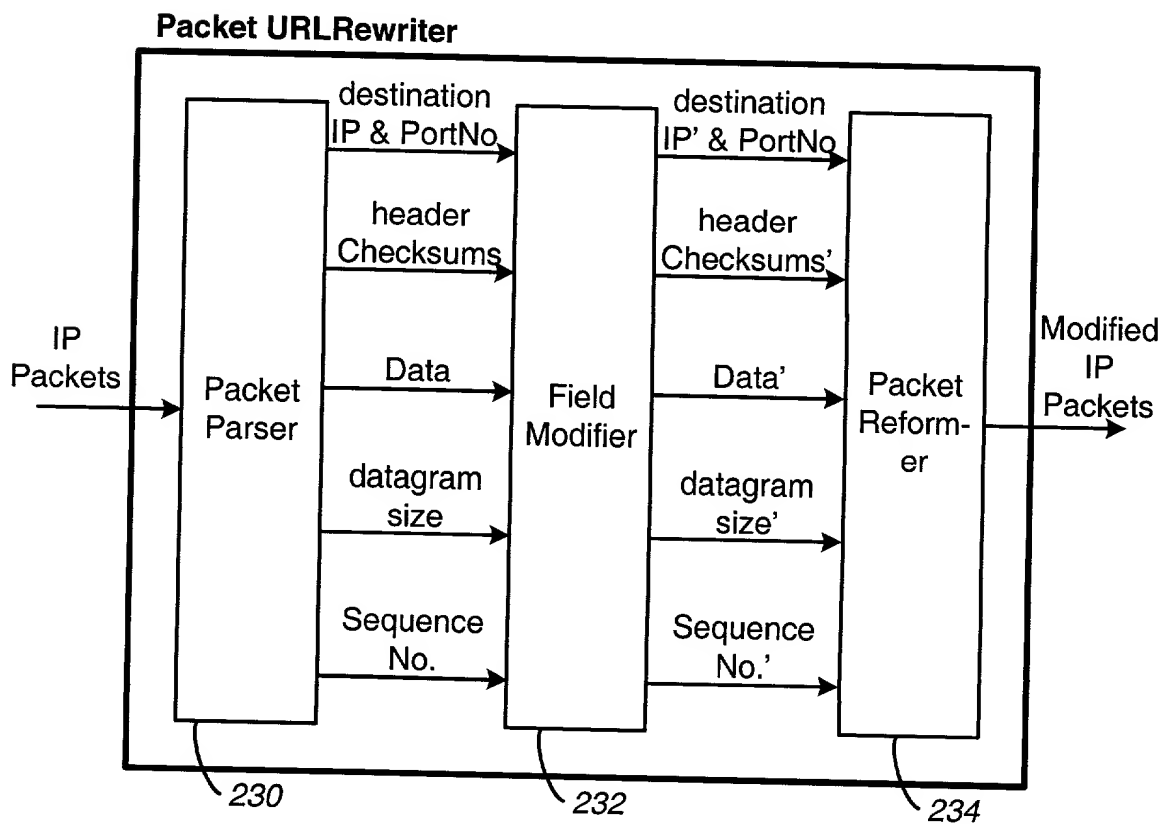


FIG. 13B

PROTOCOL = HTTP/TCP

CLIENT	WIRELESS GATEWAY	REDIRECT SERVER (RServer) IP'	WEB SERVER IP2
Wireless Gateway TCP Intercept			
1) Request URL(IP1/Path1)	2) (1st time only) URL -> URL(IP2/Path2) and pass on (After 1st time, pass requested URL onto its associated web server)		4) Serve redirected page of URL(IP2/Path2)

Note: URL(IP1/Path1) points to the page a wireless client wishes to retrieve.

URL(IP2/Path2) points to the portal page the Wireless Service Area Provider would like the wireless client to initially retrieve.

FIG. 14A

PROTOCOL = WAP/UDP

CLIENT	WIRELESS GATEWAY	REDIRECT SERVER (RServer) IP'	WEB SERVER IP''
Wireless Gateway UDP Intercept			
1) Request URL(IP1/Path1)	2) (1st time only) URL -> URL(IP2/Path2) and pass on to WAP Gateway (After 1st time, pass requested URL onto its associated web server)		3) Return redirected page of URL(IP2/Path2) via the WAP Gateway

FIG. 14B

PROTOCOL = HTTP/TCP

CLIENT	WIRELESS GATEWAY	REDIRECT SERVER (RServer) IP'	WEB SERVER IP2
(a) Wireless Gateway HTTP Redirect, Redirect server TCP Redirect			
1) Request URL(IP1/Path1) 4) Request URL(IP2/Path2)	2) (1st time only) Redirect packet to RServer. IP1 -> IP'(RServer) 5) (after 1st time) Pass the requested URL to its web server	3) Return to Client an HTTP 302 Redirect code providing the URL(IP2/Path2) of the redirected page	6) Serve redirected page of URL(IP2/Path2)
(b) Wireless Gateway HTTP Redirect, Redirect server TCP Intercept			
1) Request URL(IP1/Path1)	2) (1st time only) Redirect packet to RServer. IP -> IP'(RServer) (After 1st time, pass requested URL onto its associated web server)	3) If Path1 not available on IP2, then URL(Path1) -> URL(Path2) and pass onto the Web server, which is the same as the RServer	(Web Server = RServer, i.e. IP' = IP2) 4) Serve redirected page of URL(IP2/Path2)
(c) Wireless Gateway HTTP Redirect, Redirect server as router			
1) Request URL(IP1/Path1)	2) (1st time only) Redirect packet to RServer. IP1 -> IP'(RServer) (After 1st time, pass requested URL onto its associated web server)	3) URL -> URL(IP2/Path2) and pass onto the Web server	4) Serve redirected page of URL(IP2/Path2) back to the Client
(d) Wireless Gateway HTTP Redirect, Redirect server TCP Proxy			
1) Request URL(IP1/Path1)	2) (1st time only) Redirect packet to RServer. IP1 -> IP'(RServer) (After 1st time, pass requested URL onto its associated web server)	3) URL -> URL(IP2/Path2) and pass onto the Web server 5) Forward returned redirected page to Client	4) Serve redirected page of URL(IP2/Path2) back to the RServer

Note: URL(IP1/Path1) points to the page a wireless client wishes to retrieve.

URL(IP2/Path2) points to the portal page the Wireless Service Area Provider would like the wireless client to initially retrieve.

FIG. 15A

PROTOCOL = WAP/UDP

CLIENT	WIRELESS GATEWAY	REDIRECT SERVER (RServer) IP'	WEB SERVER IP''
(a) Wireless Gateway WAP Redirect, Redirect Server UDP Redirect			
1) Request URL(IP1/Path1) 4) Request URL(IP2/Path2)	2) If not pointing to WAP Gateway IP -> IP' (WAP Gateway) (WAP Gateway includes RServer)	3) (1st time only) Return to Client an HTTP 302 Redirect code providing the URL(IP2/Path2) of the redirected page (After 1st time, pass requested URL onto its associated web server)	5) Serve redirected page of URL(IP2/Path2)
(b) Wireless Gateway WAP Redirect, Redirect Server UDP Intercept			
1) Request URL(IP1/Path1)	2) If not pointing to WAP Gateway IP -> IP' (WAP Gateway) (WAP Gateway includes RServer)	3) (1st time only) URL -> URL(IP2/Path2) and pass onto the internal Web server (After 1st time, pass requested URL onto its associated web server)	(Web Server = RServer, i.e., IP' = IP2) 4) Serve redirected page of URL(IP2/Path2)
(c) Wireless Gateway WAP Redirect, Redirect server as router			
1) Request URL(IP1/Path1)	2) (1st time only) Redirect packet to RServer. IP1 -> IP' (RServer) (After 1st time, pass requested URL onto its associated web server)	3) URL -> URL(IP2/Path2) and pass onto the Web server	4) Serve redirected page of URL(IP2/Path2) back to the Client
(d) Wireless Gateway WAP Redirect, Redirect Server UDP Proxy			
1) Request URL(IP1/Path1)	2) If not pointing to WAP Gateway IP -> IP' (WAP Gateway) (WAP Gateway includes RServer)	3) (1st time only) URL -> URL(IP2/Path2) and pass onto the Web server via the WAP Gateway (After 1st time, pass the requested URL to its web server via the WAP Gateway) 5) Forward returned redirected page to Client	4) Return redirected page of URL(IP2/Path2) via the WAP Gateway

FIG. 15B